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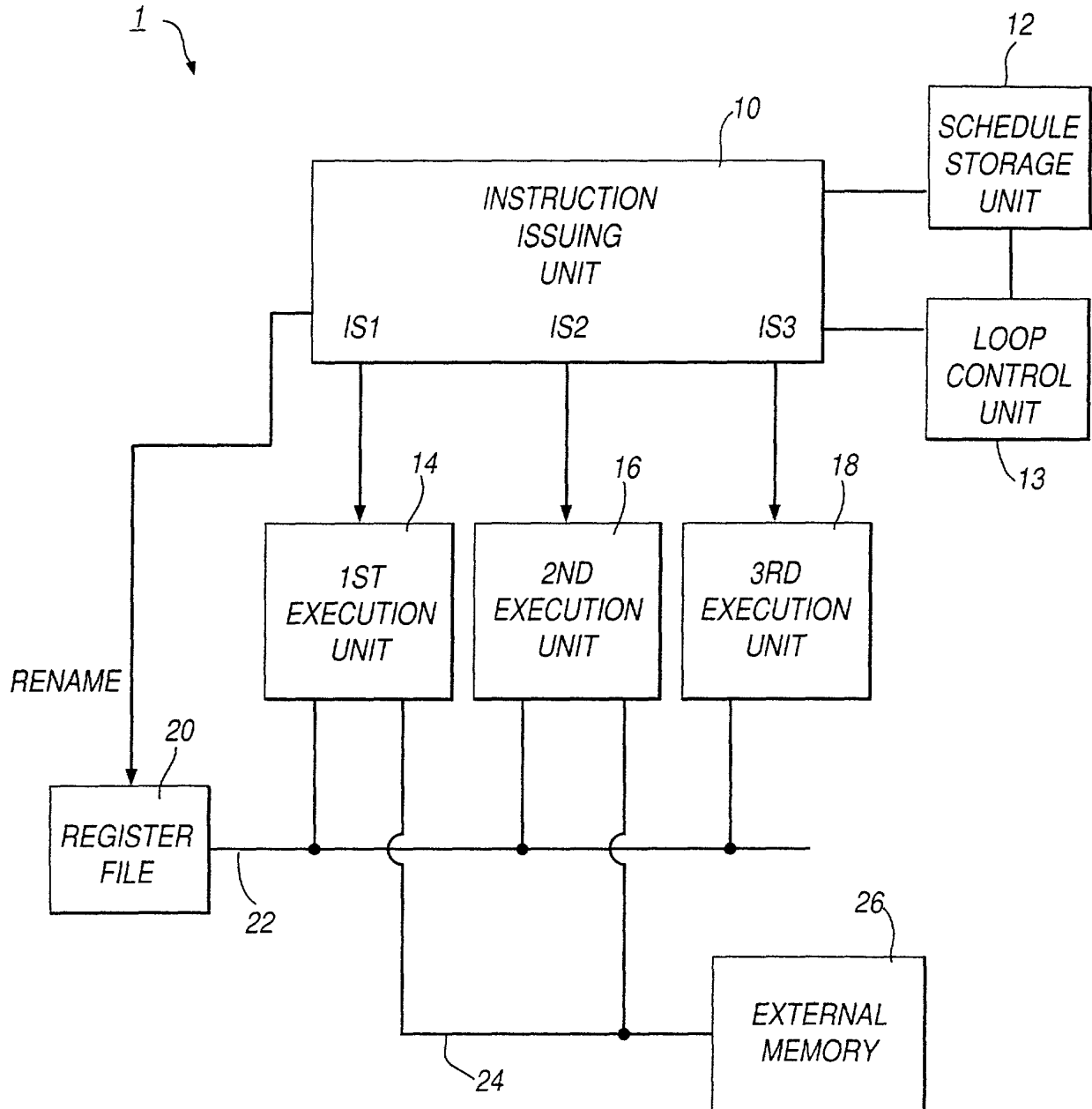


Fig.1

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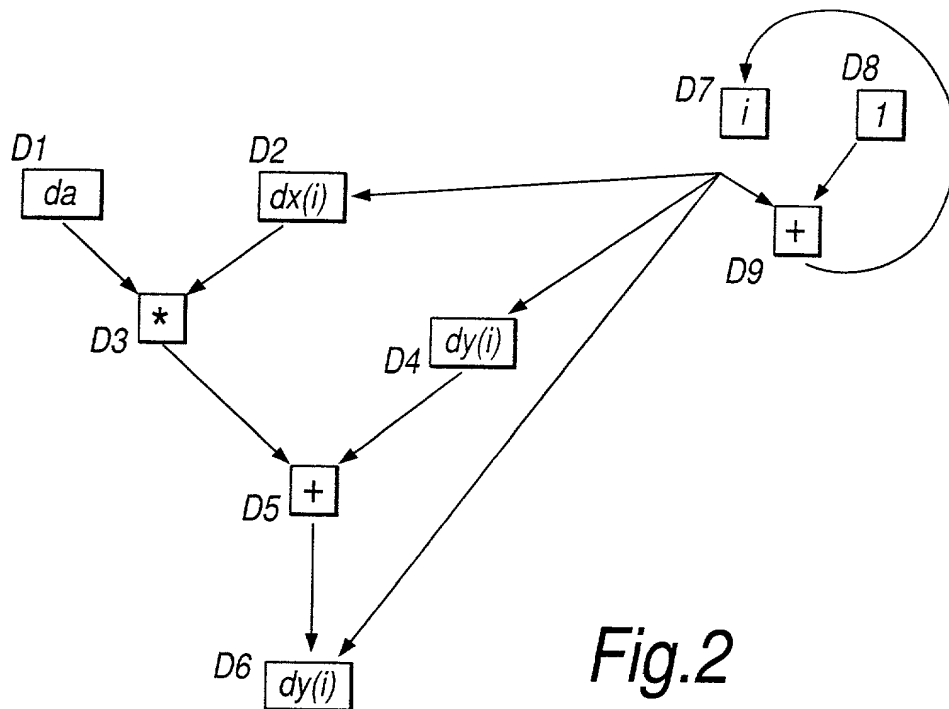


Fig.2

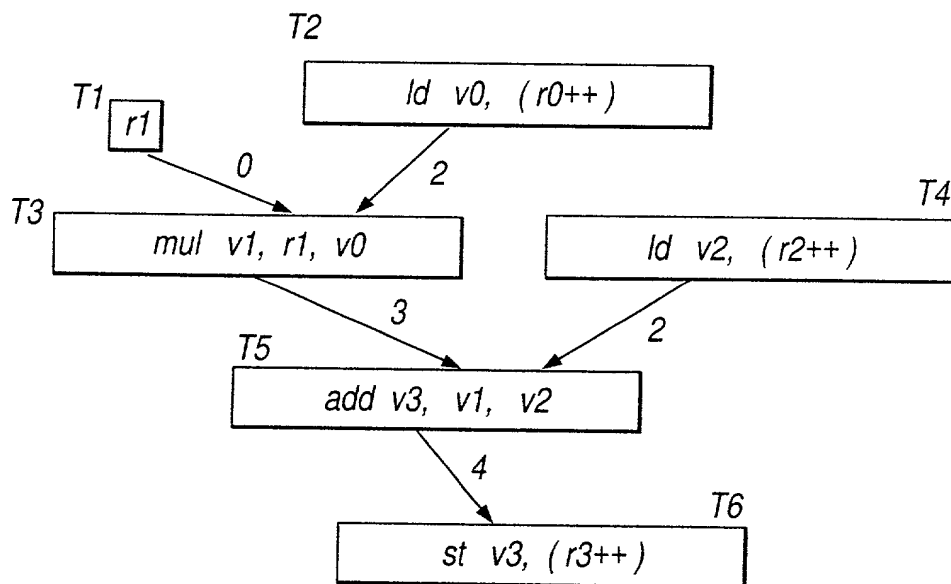


Fig.3

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Stage	Cycle	Issue slot 1	Issue slot 2	Issue slot 3	v0	v1	v2	v3
1	0	ld v0, (r0++)			s0			
	1				s0			
2	2			mul v1, v0, r1	s1	s2		
	3	ld v2, (r2++)				s2	s4	
3	4					s3	s5	
	5			add v3, v1, v2		s3	s5	s6
4	6							s7
	7							s7
5	8							s8
	9		st v3, (r3++)					s8

Fig.4

FIG. 4

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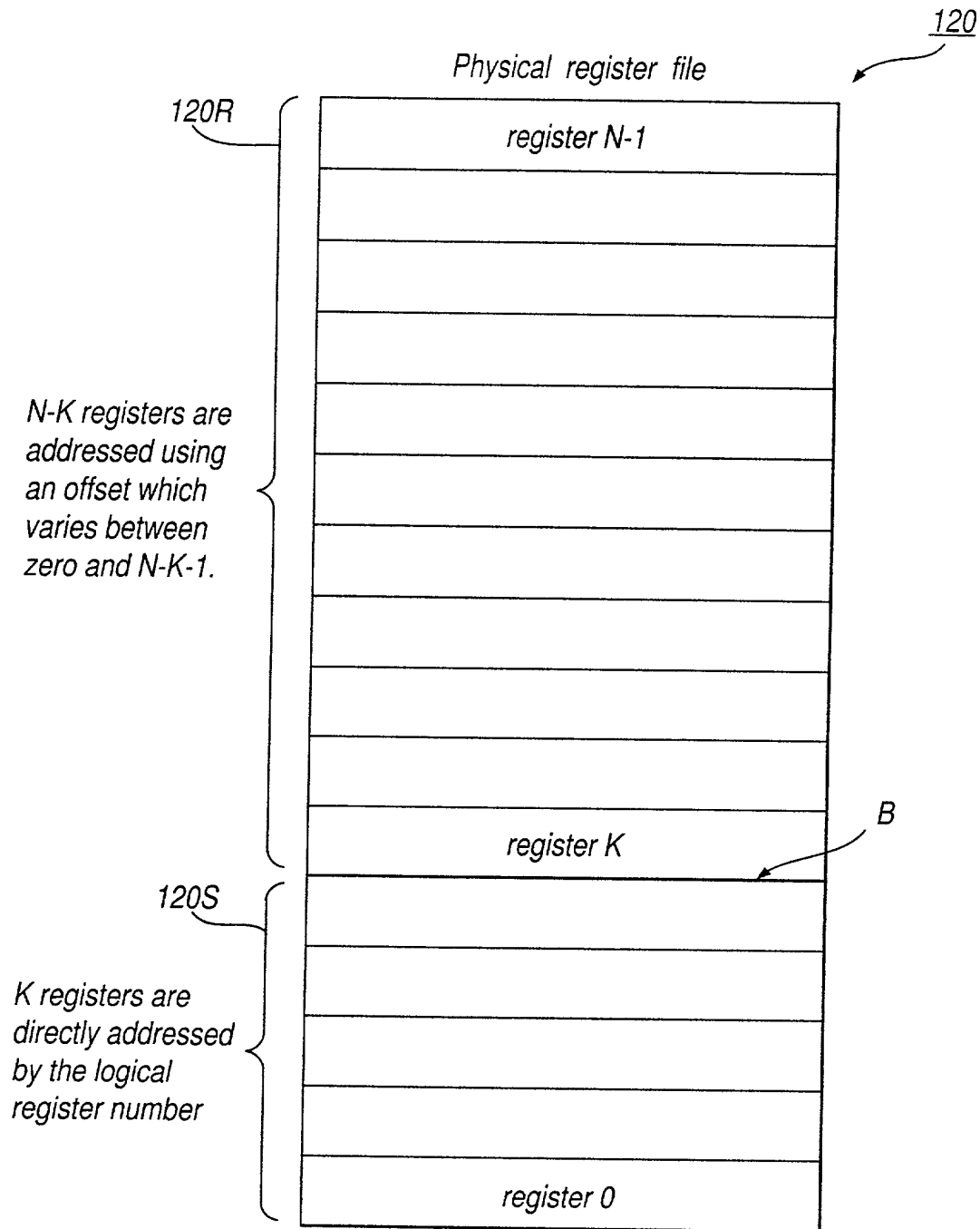


Fig.5

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		Iteration 0					Iteration 1				
Cycle	Offset	Instruction	v0	v1	v2	v3	Instruction	v0	v1	v2	v3
0	6	ld v0, (r0++)	r4 (► p10)								
1	6		r4 (► p10)								
2	5	mul v1, v0, r1	r5 (► p10)	r6 (► p11)			ld v0, (r0 ++)	r4 (► p9)			
3	5	ld v2, (r2++)		r6 (► p11)	r8 (► p13)			r4 (► p9)			
4	4			r7 (► p11)	r9 (► p13)		mul v1, v0, r1	r5 (► p9)	r6 (► p10)		
5	4	add v3, v1, v2		r7 (► p11)	r9 (► p13)	r10 (► p14)	ld v2, (r2++)		r6 (► p10)	r8 (► p12)	
6	3					r11 (► p14)			r7 (► p10)	r9 (► p12)	
7	3					r11 (► p14)	add v3, v1, v2		r7 (► p10)	r9 (► p12)	r10 (► p13)
8	2					r12 (► p14)					r11 (► p13)
9	2	st v3, (r3++)				r12 (► p14)					r11 (► p13)
10	1										r12 (► p13)
11	1						st v3, (r3++)				r12 (► p13)

Fig.6A

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Iteration 2							Iteration 3				
Cycle	Offset	Instruction	v0	v1	v2	v3	Instruction	v0	v1	v2	v3
0	6										
1	6										
2	5										
3	5										
4	4	ld v0, (r0++)	r4 (► p8)								
5	4		r4 (► p8)								
6	3	mul v1, v0, r1	r5 (► p8)	r6 (► p9)			ld v0, (r0 ++)	r4 (► p7)			
7	3	ld v2, (r2++)		r6 (► p9)	r8 (► p11)			r4 (► p7)			
8	2			r7 (► p9)	r9 (► p11)		mul v1, v0, r1	r5 (► p7)	r6 (► p8)		
9	2	add v3, v1, v2		r7 (► p9)	r9 (► p11)	r10 (► p12)	ld v2, (r2++)		r6 (► p8)	r8 (► p10)	
10	1					r11 (► p12)			r7 (► p8)	r9 (► p10)	
11	1					r11 (► p12)	add v3, v1, v2		r7 (► p8)	r9 (► p10)	r10 (► p11)
12	0					r12 (► p12)					r11 (► p11)
13	0	st v3, (r3++)				r12 (► p12)					r11 (► p11)
14	-1										r12 (► p11)
15	-1						st v3, (r3++)				r12 (► p11)

Fig.6B

Fig.7

		Iteration 0	Iteration 1	Iteration 2	Iteration 3
Cycle	Offset	Instruction	Instruction	Instruction	Instruction
0	6	ld r4, (r0++)			
1	6				
2	5	mul r6, r5, r1	ld r4, (r0++)		
3	5	ld r8, (r2++)			
4	4		mul r6, r5, r1	ld r4, (r0++)	
5	4	add r10, r7, r9	ld r8, (r2++)		
6	3			mul r6, r5, r1	ld r4, (r0++)
7	3		add r10, r7, r9	ld r8, (r2++)	
8	2				mul r6, r5, r1
9	2	st r14, (r3++)		add r10, r7, r9	ld r8, (r2++)
10	1				
11	1		st r12, (r3++)		add r10, r7, r9
12	0				
13	0			st r12, (r3++)	
14	-1				
15	-1				st r12, (r3++)

Parameter	Value	Parameter	Value
Mean	1.0	Standard deviation	0.5
Minimum	0.0	Maximum	2.0
Mode	1.0	Median	1.0
Range	2.0	Interquartile range	0.5
Skewness	0.0	Kurtosis	0.0
Correlation coefficient	0.0	Chi-square	0.0
F-value	0.0	P-value	0.0
Significance level	0.05	Confidence interval	0.95
Sample size	100	Population size	100
Sampling method	Simple random	Sampling interval	10
Response rate	100%	Non-response rate	0%
Dropout rate	0%	Refusal rate	0%
Eligibility criteria	Adults aged 18 and above	Exclusion criteria	Children and pregnant women
Inclusion criteria	Residing in the study area	Consent	Obtained from all participants
Ethical approval	Obtained from the ethics committee	Data management	Using SPSS software
Statistical analysis	Descriptive statistics	Significance level	0.05
Results	Mean = 1.0, SD = 0.5	Interquartile range	0.5
Correlation	0.0	Chi-square	0.0
F-value	0.0	P-value	0.0
Significance level	0.05	Confidence interval	0.95
Sample size	100	Population size	100
Sampling method	Simple random	Sampling interval	10
Response rate	100%	Non-response rate	0%
Dropout rate	0%	Refusal rate	0%
Eligibility criteria	Adults aged 18 and above	Exclusion criteria	Children and pregnant women
Inclusion criteria	Residing in the study area	Consent	Obtained from all participants
Ethical approval	Obtained from the ethics committee	Data management	Using SPSS software
Statistical analysis	Descriptive statistics	Significance level	0.05

Fig.8

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Cycle	Issue slot 1			Issue slot 2			Issue slot 3		
	Instruction	Iteration	Stage	Instruction	Iteration	Stage	Instruction	Iteration	Stage
0	ld r4, (r0++)	0	1						
1									
2	ld r4, (r0++)	1	1				mul r6, r5, r1	0	2
3	ld r8, (r2++)	0	2						
4	ld r4, (r0++)	2	1				mul r6, r5, r1	1	2
5	ld r8, (r2++)	1	2				add r10, r7, r9	0	3
6	ld r4, (r0++)	3	1				mul r6, r5, r1	2	2
7	ld r8, (r2++)	2	2				add r10, r7, r9	1	3
8							mul r6, r5, r1	3	2
9	ld r8, (r2++)	3	2	st r12, (r3++)	0	5	add r10, r7, r9	2	3
10									
11				st r12, (r3++)	1	5	add r10, r7, r9	3	3
12									
13				st r12, (r3++)	2	5			
14									
15				st r12, (r3++)	3	5			

Fig.9

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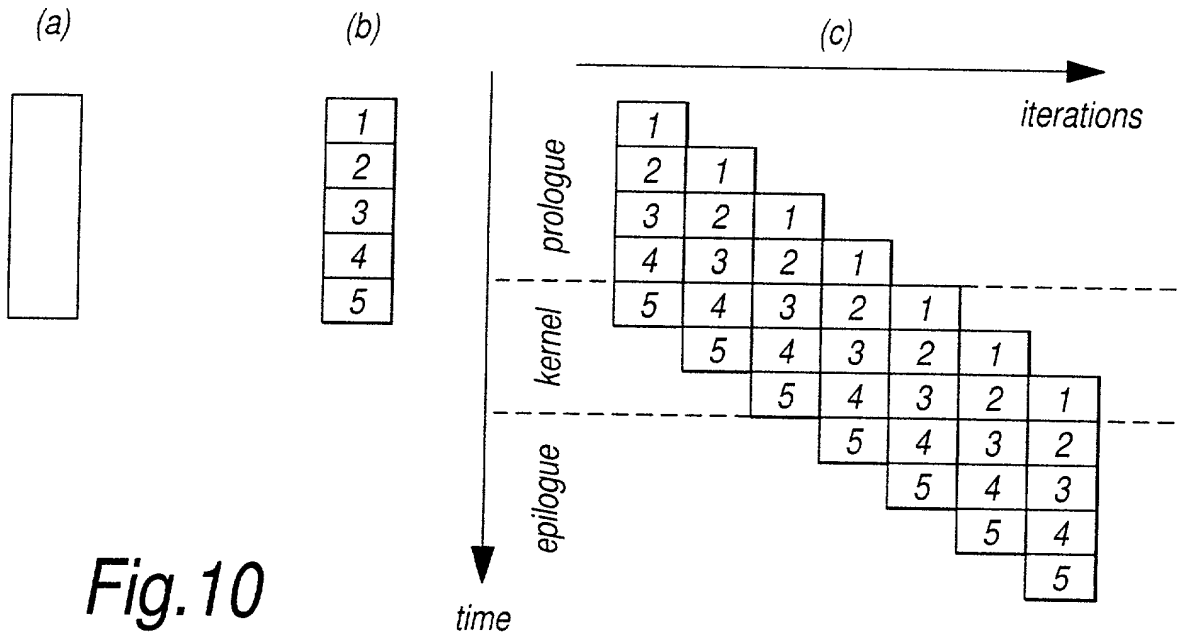


Fig.10

							P5	P4	P3	P2	P1
prologue	1						0	0	0	0	1
	2	1					0	0	0	1	1
	3	2	1				0	0	1	1	1
	4	3	2	1			0	1	1	1	1
kernel	5	4	3	2	1		1	1	1	1	1
		5	4	3	2	1	1	1	1	1	1
			5	4	3	2	1	1	1	1	1
epilogue				5	4	3	1	1	1	0	0
					5	4	1	1	1	0	0
						5	1	1	0	0	0
							1	0	0	0	0

time

Fig.11

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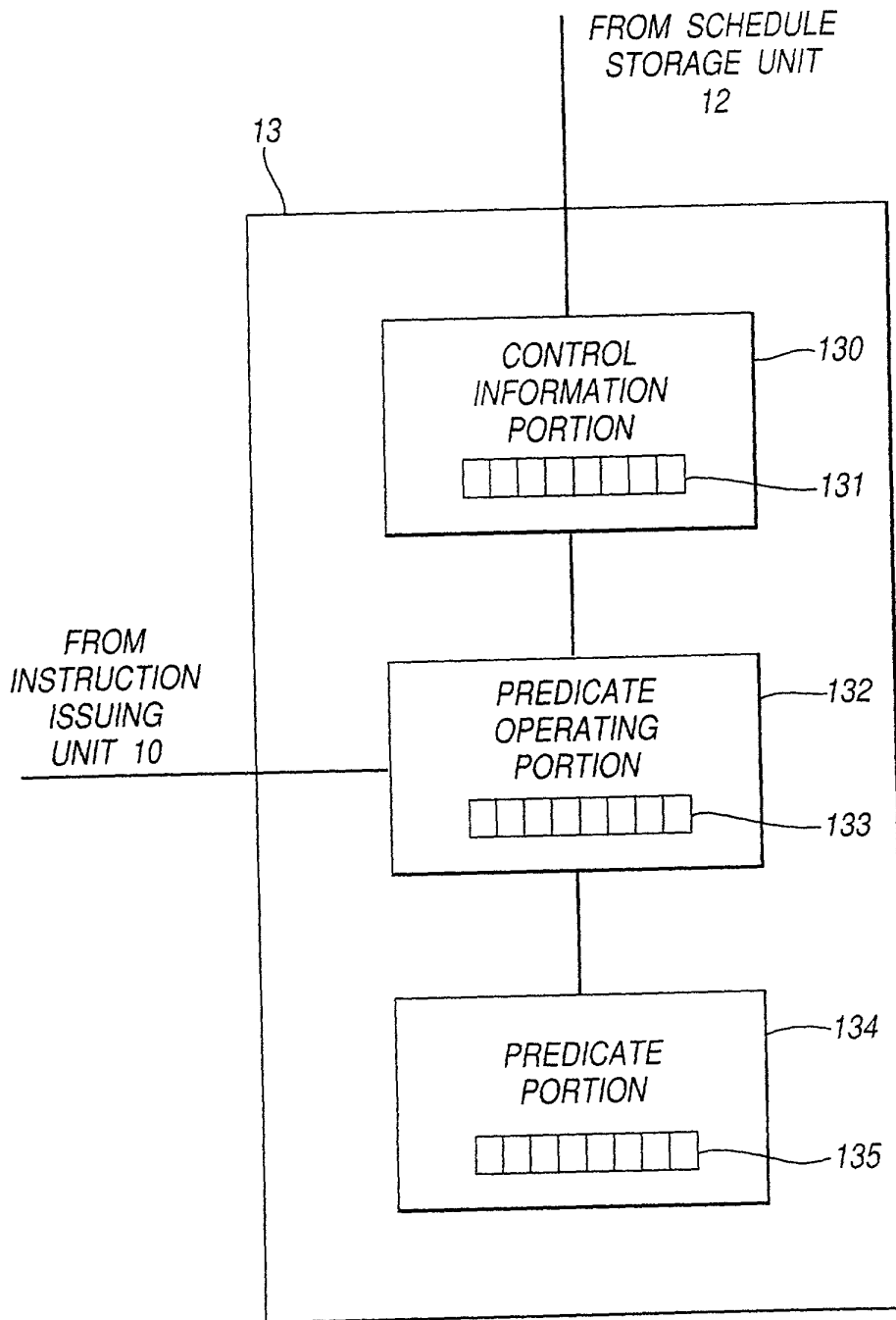


Fig.12

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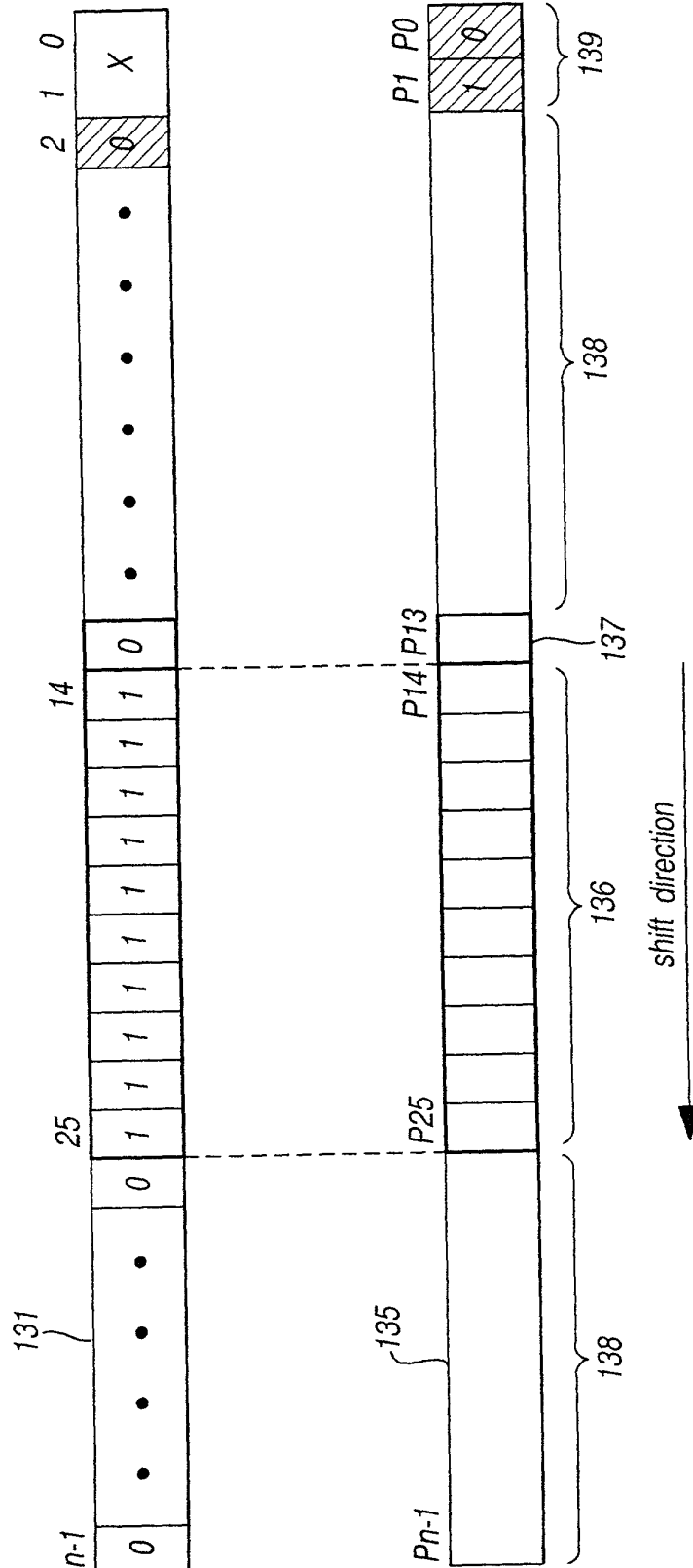


Fig.13

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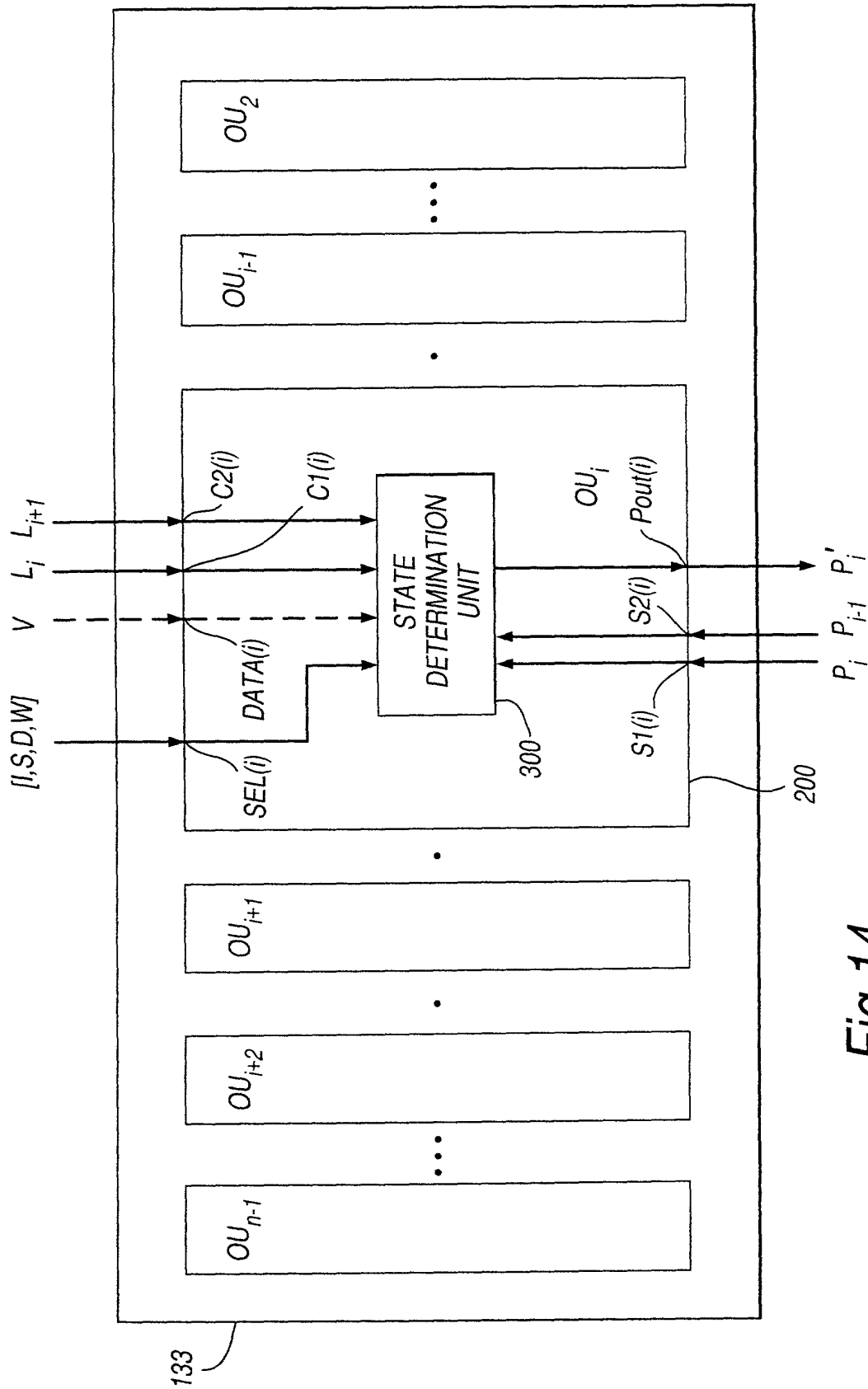


Fig. 14

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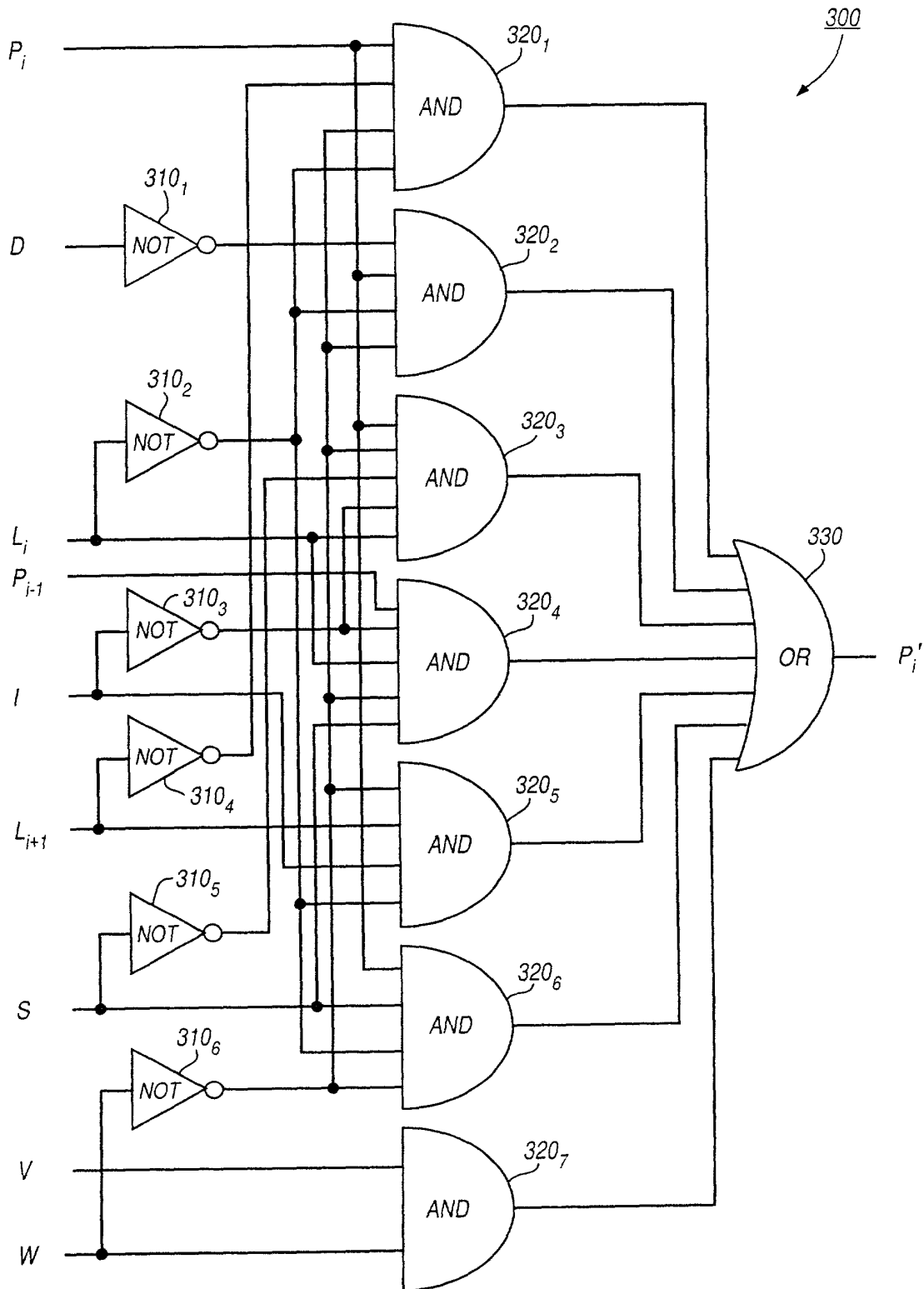


Fig.15

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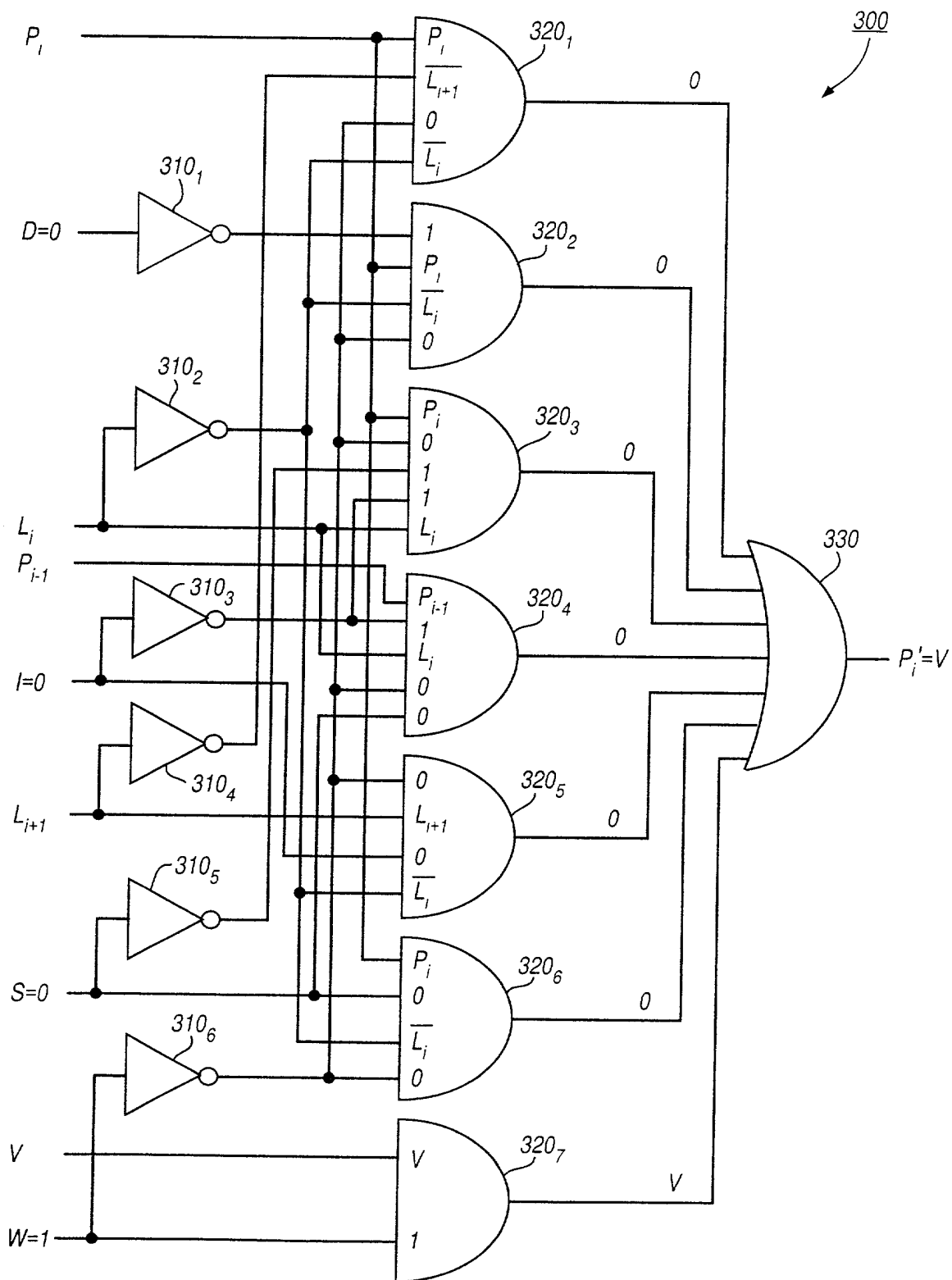


Fig.16

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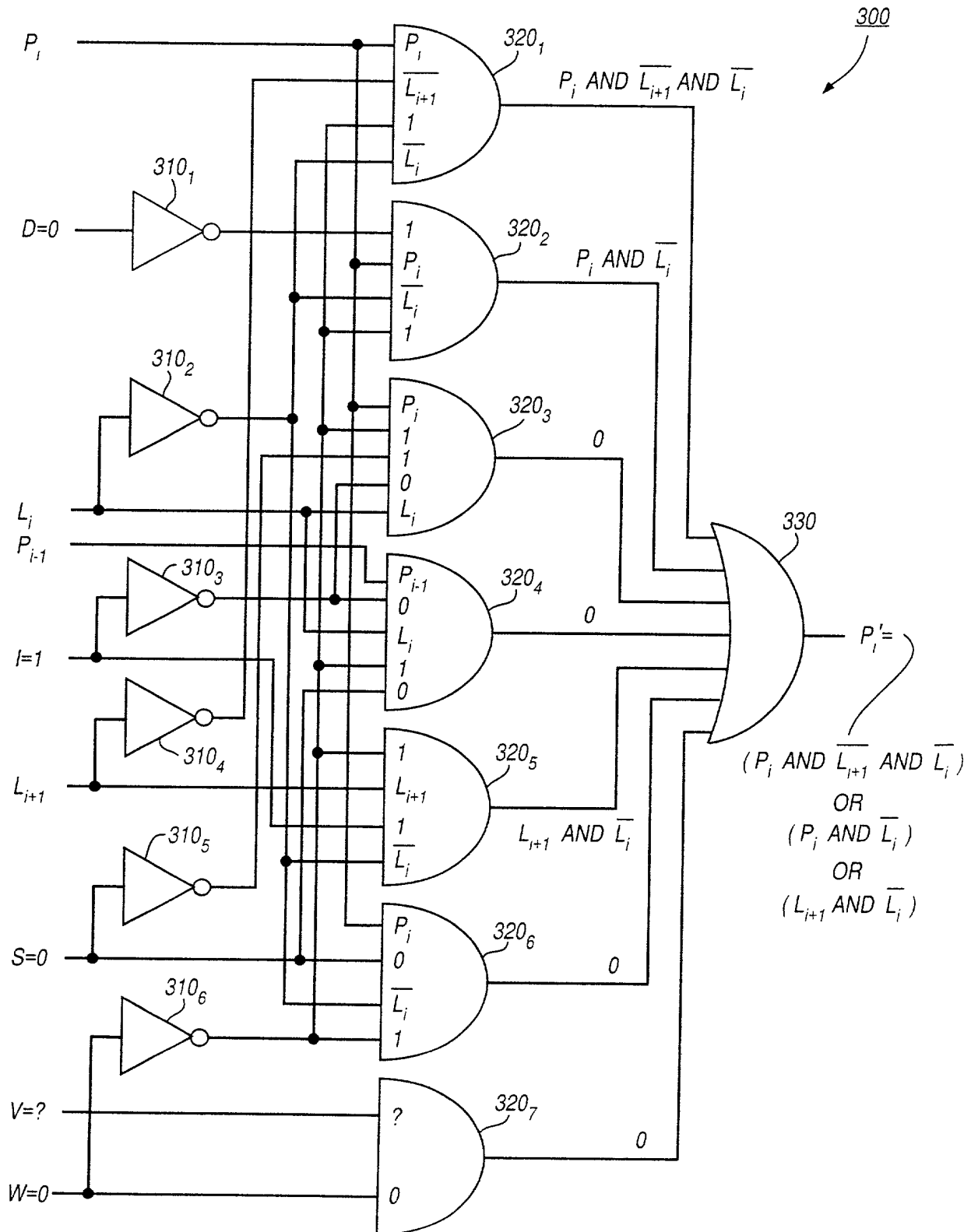


Fig.17

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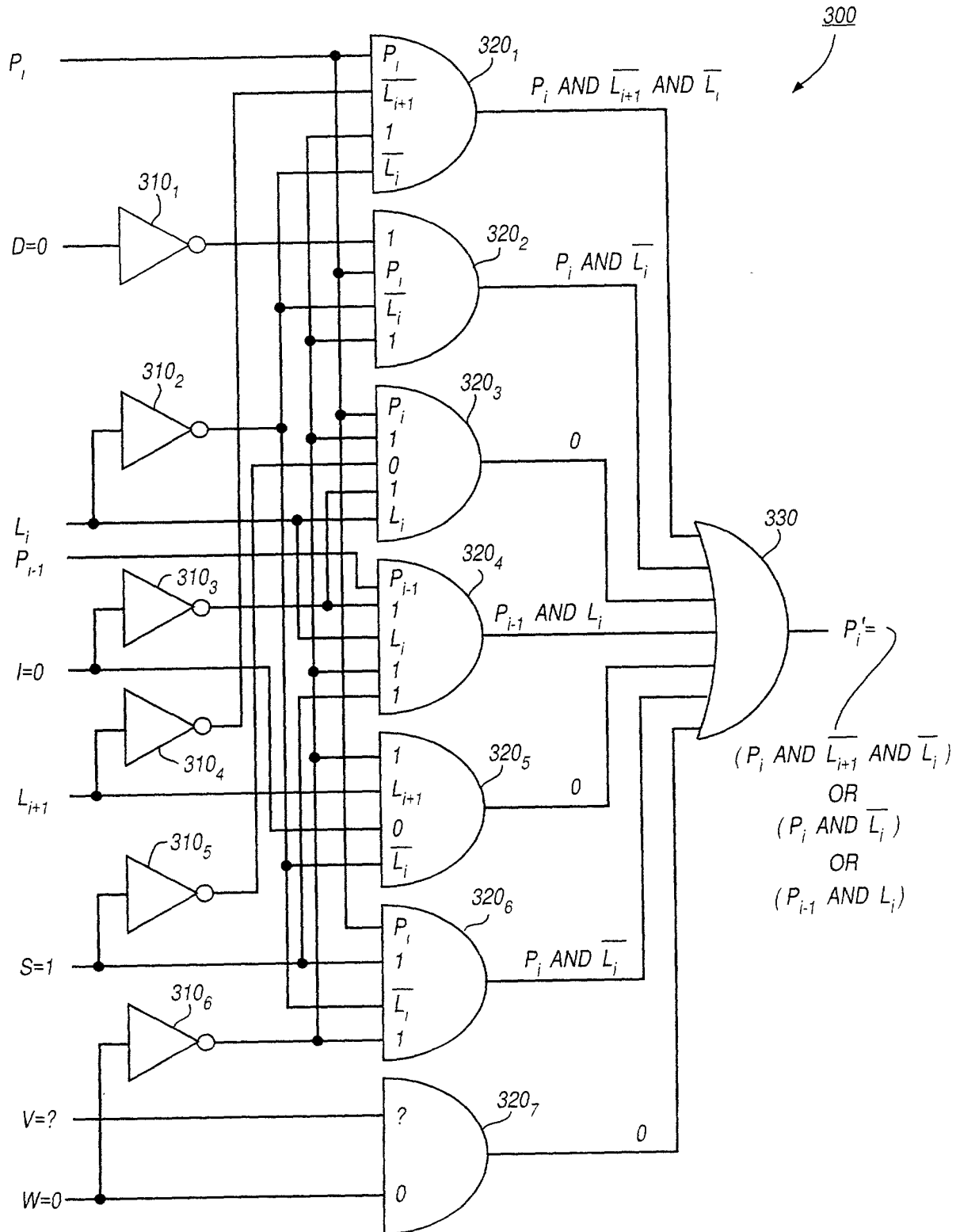


Fig. 18

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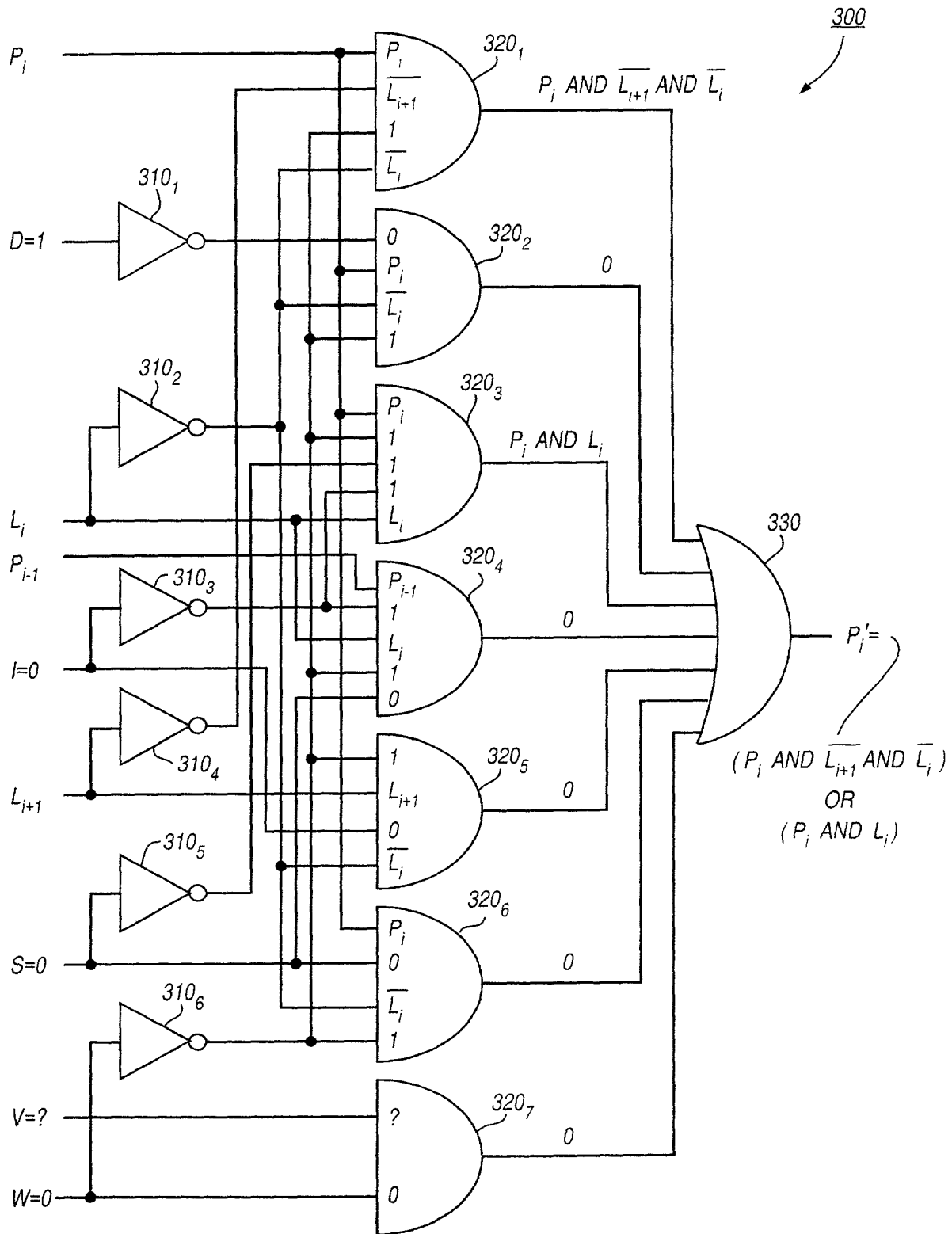


Fig.19

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